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CONTENTS

2. Information on the Group
3. Editorial
4. Members' letters
8. Problem section
10. QL used in brain research
11. "The Plug" power conditioner
11. German group
11. A Z8-based intelligent peripheral
12. Dust covers
12. Saving large documents from Quill
13. Keydefine, by Psientific Software
14. Sticky labels
14. Auto RUN your programs
14. "Getting to know your Sinclair QL" by Stephen Morris
15. A soft reset for QDOS
17. Library additions
17. "AutoDraw" interactive graphics system for the QL
24. Using SuperBASIC
25. Pcion notes
26. Puzzle about keyboard bounce in Quill
27. Library - an appreciation
27. Creating DATA statements
28. Recursion
29. Details of application of EP44 to QL interface
30. Printing multiple copies
31. Archive
32. Computer One FORTH V2.00
33. Re-loading a BASIC program into Quill
33. Recovering crashed Quill documents
34. Library additions
35. Computamate disk system
36. Shinwa CPA-80 printer driver
37. Quality software?
37. Deleting text on the QL
38. Help!
38. Secretary's notes

INFORMATION ON THE GROUP

Membership of IQLUG is by subscription to Quanta, the group's newsletter, which is published monthly. Membership details are obtainable from the secretary. Membership of the group is open to anyone with an interest in the Sinclair QL microcomputer.

Members requiring assistance with problems related to the QL may write to or 'phone the secretary. An attempt will be made to put them in touch with a member who can help with the problem.

Workshops will be arranged from time to time in various parts of the country.

The group maintains a software library. Most of the programs are free to members. A library list will be published from time to time. Programs are obtainable from the sub-librarians.

A list of members in any particular area is obtainable from the secretary.

Please send all contributions to the newsletter to the editor.

Chairman and
Newsletter Editor

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Quill, Abacus, Archive and Easel are trade marks of Psion Ltd.

NOTES FOR CONTRIBUTORS TO QUANTA

If possible, contributions longer than half a page should be sent in the form of a Quill file, on cartridge or 40 track SS or DS disk. Disks and cartridges will be returned ASAP.

If printed contributions are submitted, they should be printed on A4 paper, using a fresh ribbon. Do not fold the sheets, but keep them flat when posting.

Handwritten articles are acceptable, provided they are not too long.

Short programs can be included, but lengthy programs should be placed in the library, and a description sent in for the newsletter.

EDITORIAL

Our more perceptive readers will notice a considerable improvement in the appearance of Quanta this month, I hope, due to our having purchased a daisy wheel printer. We are using a Silver Reed EXP 500 model, with a parallel interface, connected to my Model II TRS-80, running WordStar. Of course, I can't retype everything that is sent in, but we might be able to pay someone to do this if membership keeps on expanding, and now that cartridges have come down in price, perhaps more of you will send in your contributions in machine-readable form.

Thanks to Gerry McLaughlan, we have a new front cover to go with the new printer.

I am getting enough contributions to justify a 44 or even 48 page newsletter, but we need some additional advertising revenue to cover the extra printing and postage costs. We had a member responsible for contacting prospective advertisers, but he is too busy finishing his doctoral thesis at present, so is there another member who could help in this area, or who has any bright ideas. I have started compiling an Archive data base of prospective advertisers, so a mail shot might be useful. All expenses will be reimbursed, of course. Please get in touch with me or Brian if you can help.

The recent Cambridge workshop was a great success. We expected about 30 to turn up, and over 70 actually attended. A couple of mice put in an appearance, interfaced to QLs, with some rudimentary software. I wouldn't be surprised to see Digital Research's GEM (as used on the forthcoming Atari "Jackintosh") running on the QL before too long. A low-cost disk interface, that will sell for under £100, was demonstrated. It will be sold by Silicon Express, and we might be able to arrange a substantial discount to members.

We have decided to hold the Autumn weekend workshop at the Post Office Training Centre in Milton Keynes in November, rather than Swindon. It will cost a bit more for those members requiring accommodation, but the facilities are better than the hotel, and there won't be any problems with members not being able to get a room. We will have a lot more members by then, and the hotel is a bit small for the numbers we expect to attend. It will also be much more convenient for the northern members. We used to use the premises for NATGOG workshops when it was a College of Education, and once even held a workshop there lasting a whole week, in the summer! We might repeat this for IQLUG if there is sufficient demand.

Sinclair MD, Nigel Searle, has moved to the States to handle the introduction of the QL over there, although he will find it tough if the Atari ST machines are launched this month.

OEL recently went into receivership. Several members had ordered kit from them, and might have some difficulty in getting their money back. OEL were

rather naughty and actually debited some people's credit card accounts, without dispatching the goods. Members ordering with credit cards might be able to get their credit card company to cough up the money, but members paying by cheque might lose most of their money, as unsecured creditors are last in line when a company is liquidated. Sinclair have been left with egg on their collective faces, as they have been plugging the OEL kit in their most recent advertisement. There have been rumours that they will be taking on OEL's modem business, but I feel it is unlikely.

GST have asked me to organise a C library, for users of their QC compiler. They will donate the source code of several programs they have developed to the library, and I will put some of mine in it, also. Will any other members willing to contribute C programs please get in touch with me. A library list will be published in Quanta from time to time. Executable object code versions of some of the programs will be placed in the general library.

We have too many sub-librarians in the South, and only one or two for the Northern members. We might therefore have to ask for some resignations amongst the Southern librarians. A smaller number of sub-librarians will make admin. much easier, and will also make it possible to provide all librarians with a set of cartridges for their copies of the library software. To pay for the cartridges, and to pay for a larger newsletter, we are thinking of making a nominal charge for each library cartridge copied, of, say 50p, in stamps. The stamps will then be used for sending out newsletters, etc. This way we avoid excessive bank charges. The bank classes us as a business account, and charges for deposits, as well as payments.

Leon Heller

MEMBERS' LETTERS

I'm sorry, but we have given up. The computer we purchased was one constant aggravation. There was one fault after another, and in the end, W. E. Smiths of Aylesbury offered a cash refund which we have accepted.

Unfortunately, in addition to the QL we also purchased a Microvitec monitor, interface for an Epson FX80 F/T+, and a cable from Sinclair. All have had very little use and we would like to sell them. Offers please to:-

Terry Roche,
1 Church Close,
Aston Clinton,
Bucks. HP22 5HJ.

Terry Roche.

I read with interest your notes about the PICASO graphics system running under FORTRAN. I am a student at Coventry Poly and FORTRAN is the main language used on my engineering course. I was therefore very

pleased to see TDI's ad. in QL User and have written to them for details of the package, which will enable me to prepare coursework at home. I am also a great graphics fan and would like to learn more of the above-mentioned system with a view to implementation during the summer vac. Is it public domain?

I am a little disappointed that there are no plans for a Midlands workshop. We may be few and far between here, but our enthusiasm makes up for that.

I was a little more than amazed that mention of free QLUB membership was only glossed over in last month's editorial. Are you not worried that free membership of the official club may put new buyers off? I think we should make the benefits of IQLUG more widely known, that is, third party hardware and software discounts, and the library. I think the library will have to be improved if it is to be an attraction. I found that hardly any of the programs on Cartridge 1 worked, and those that did were 'Beep 'n Flash' programs, hardly inspiring stuff.

Finally, what about hardware projects? The initial membership form asked for details of interests, and I'm sure hardware must be reasonably popular. I have successfully attached an Atmos keyboard, and I am working on an Atari Trackball interface with supporting software linked into the 50 Hz interrupt linked list. If you're interested, please let me know.

Keep up the good work!

Mark Norton,
138 Newlands Road,
Stirchley,
Birmingham B30 2RH.

/* PICASO costs £500 for a single end-user licence, I believe, but you do get .5 Mb of code!

We are sorry the Midlands got left out of the workshop programme, but you are not too far away from Swindon, Milton Keynes or Cambridge, unlike the Northern and Scottish members.

I don't think that QLUB presents much of a threat, even if it is free. Quanta is infinitely better than QLUB News, and we provide a much better service on the whole. On the poor quality of Cartridge 1, these were the first programs to be written. Subsequent cartridges are probably a lot better. I think many members would be interested in your replacement keyboard and tracker ball. I'll publish anything you send in about them. */

I would like to make a few points to express my feelings about Quanta.

I realise that you depend on articles and comments from members. In spite of this, there are certainly much more interesting things to say about our beautiful machine than are written in our newsletter. You should favour such topics. One example: if you transfer the clock program (the machine code one) to the TRS-80 via the RS-232, transfer it back to the QL, save it on mdv and try to EXEC it, the machine locks up. Why?

It makes no sense to me to over and over again describe how to set up DIP switches on printers.

Cut members' letters to the essential points.

Please, more about mailbox, and comms. programs and tricks.

I do like your reports on software, hardware and books.

Make your promise come true. Increase the quality of Quanta print.

Is there a place on the continent. perhaps in Germany, where a librarian is located?

Frank Heinevetter,
Eichenweg 3,
5591 Lutzerath,
West Germany.

/* The transfer of machine code (binary) from one machine to another is not likely to be successful, unless both systems are set up for eight data bits. It is much safer to convert the binary to ASCII hex (two characters per byte) and transfer the ASCII hex, with error checking (simple checksums will do).

Most of the queries we get from members are about printers. Publishing details in Quanta should cut down the letters and 'phone calls.

I hope the print quality of most of this issue meets with your approval!

We are working on sub-librarians for the continent. In the mean time you can send requests to any of the UK sub-librarians. */

- - - - -

My company, Qsoft, has received the assignment to translate the four Psion application packages to Danish. As are all the translations (Spanish, French, Italian, German and Spanish) they are coordinated by GST.

Our task comprised moving about 750K of data files from IBM PC, WordStar format, to floppy (CST) and cartridge on the QL. The files are translated on individual QLs and returned to PC DOS format on the IBM. The transmission of data between the two computers was easy, but needs some small tricks that we will gladly pass on if anybody should need it.

Eng. Hellmuth O. Stuvén,
Smedegårdsparken 19,
DK 4000 Roskilde,
Denmark.

/* It looks as though the official launch of the QL into the continental market isn't far off. I believe each country will have its own special version of the machine, as the keyboard configurations are different. */

No news here on the QL. There are rumours that it will not be marketed by Sinclair. Fear of Tramiel's new Atari ST series with GEM and CP/M-68K? It is rumoured that it will sell for around \$600. Also rumoured is a 10 Mb, 3.5" hard disk drive for \$600. If there is any truth in the above rumours then Sinclair is in for a hard time over on this side of the pond, unless he can come out with a miracle without bugs in it.

Larry Chavarie,
1707-415 Greenview Avenue,
Ottawa,
Ontario K2B 8G5,
Canada.

Could we have a page or so devoted to a listing of the versions of hardware and bundled software with date of issue. This would help, I think, to put the frequent "it depends which version you have" questions and letters in perspective. If it appeared in every Quanta it could help too - until which version we have, in some wonderful future, will not matter at all: Perhaps call it "The Docket" or "L'Histoire de QL".

Ernest Palfrey,
Coxboro' Cottage,
Cookham,
Berks.

/* If someone will compile such a list, and keep it up to date, I'll include it from time to time. */

In reply to D. Guthrie's enquiries in Quanta 9 and 11:-

```
1 DEFine PROCedure 1
2 INPUT a$,b$
3 IF a$="" THEN a$="1"
4 IF b$="" THEN b$="32767"
5 a=a$:b=b$
6 LIST a TO b
7 END DEFine 1
```

Line 5 is the important line - LIST a\$ TO b\$, when they are two numbers lists the whole program.

LIST a TO b, however, simply lists between a and b.

D. Palfrey,
Coxboro' Cottage,
Cookham,
Berks.

I have to admire the program written by Ron den Breems which displays beautiful QL image on the screen. I have incorporated a slightly revised version into the introduction to a quiz game I have devised - and its very effective indeed.

Keep up the good work!

Andrew Risby,
7 Combers,
Balcombe,
West Sussex,
RH17 6NE.

Firstly some points that may be of use to other members;

1) Connecting the QL to the Ferguson MC01 TV/Monitor. A lead is now available from Ferguson under ref 'MA17' @ £5.09. Their address is; Technical Services, PO Box 121, Lea Valley Trading Estate, Angel Road, Edmonton, London. N18 3BP

2) EASEL version 2.00. When you are not in command mode, pressing [SHIFT] and [F4] will allow you to change the background colour of the screen. (A very bad choice of keys as pressing [F4] on its own will delete the current value!).

3) EASEL version 2.00. This version of EASEL does not scale graphs in the same way as the original versions. Initially it will scale any graph so that 'zero' is shown on the axis. The following sequence of keys allows you to change to the old format; F3,C,A,A.

4) QUILL version 2.00. As there are now 10 Translate options on 'Install bas' you can now use the spare options to, for example, translate a non-printing character such as [CTRL][1] for a set of control characters such as <ESC>,4 - Italic mode 5.

A quick review of the PSION upgrades:-

QUILL EASEL & ABACUS are all now much improved and worthy of the title 'Professional'. ABACUS however remains very slow and unfriendly. All the routines I wrote for version 1 do not work now as version 2.00 no longer seems to recognise the "CODE" function.

I am now using with great success the BROTHER M-1009 and am able to access many of its printing modes from within the PSION programs. As much space in QUANTA has already been used on this subject, if anyone wants to send me a SAE I will return the necessary DIP, and Install INFO.

Kevin Leah,
58 Mansfield Drive,
Merstham, REDHILL,
Surrey RH1 3JN.

PROBLEM SECTION

Can anyone explain what Turtle Graphics actually are and how the keywords should be used?

Andrew Risby,
7 Combers,
Balcombe,
West Sussex,
RH17 6NE.

I currently own a version JM QL. The JS version is now available. I bought my QL from W.H. Smith and am not entirely satisfied with its performance. I have three main complaints:-

- 1) The machine hangs up on me after a short period of use.
- 2) Files saved on drive 1 sometimes do not load on drive 2.
- 3) The computer takes a very long time to load SuperBASIC files compared to the time it takes to load other files.

Am I allowed to take the QL back to Smith's, and is it my right to ask for the JS version?

Simon Edwards,
122 Ffordd Pen-y-maes,
Clwd CH8 7BG.

/ Smith's won't have any JS machines: JS ROMs got put in machines returned to Camberley for repair, by mistake. As I said in the last issue, JS has several bugs. You should ask for a replacement machine, or your money back, as your QL is definitely faulty. */*

I have had my Spectrum and QL talking to each other via the networking facility. I had no trouble transferring QL programs into the Spectrum memory using programs published on page 24 of "Your Spectrum", November 1984 issue, but cannot get them transferred from the Spectrum to the QL. A program in "Popular Computing Weekly", Vol.3, Issue 44, Page 47, only sends 256 bytes from the Spectrum before stopping.

I would be most grateful if any members could help me with this problem.

Michael Scott,
7 Beech Grove,
Springwell,
Gateshead,
Tyne and Wear, NE9 7RD.

/ I have been told that there is a bug in the Spectrum interface ROM, which prevents networking from the Spectrum to the QL working, although it works going the other way. I believe that new ROMs will shortly be available for the Spectrum interface that will solve this problem. Perhaps Sinclair will exchange old interfaces for new ones, for QL users who wish to network QLs and Spectrums. */*

I have been very successful in linking my QL and a Brother M-1009 together, and have Quill operating faultlessly, however I have not yet had any success in modifying GPRINT from the Easel package in order to produce hard copies of my graphs. Can anyone help?

Martin Hugo,
19 Carton Court,
Co. Kildare,
Ireland.

Quill 2 seems to be a great improvement, being much faster with short and moderate length documents. It is still quite slow with long (4000 word) documents, as it takes up to four minutes to save (when overwriting) because of the need to retain a def_temp on mdv2. Loading a document of this length takes about 45 secs. and backing-up from within the file 90 secs.

A solution to slow handling would be to break up the document, but I have not yet found a way to do this. Would extra memory speed things up, or does one need disk drives?

I have found that it is a good idea to reset before loading Quill 2, because otherwise any existing program will stay in memory, take up valuable space, and require Quill to make a def_tmp.

And finally a word of warning to Quill users. When typing a table using the TAB command, don't press the TAB key at the end of the line, this may cause the printer to form-feed, press <RETURN> instead.

Dr. John Heckmatt,
17 Cleveland Court,
Kent Avenue,
London W13 8BJ.

/* I feel that extra memory would be most useful to you, to speed up Quill with large documents. Has anyone investigated this? */

QL USED IN BRAIN RESEARCH

Prof. Dieter Umkopf of the Technical University, Berlin, is using QLs in his research into the measurement of the physiological correlates of emotion. Prof. Umkopf has found that the shape of the ventricles of the brain alters when different emotions are experienced. Although the early experiments were conducted on rats, with surgically implanted ultrasonic transducers, these techniques cannot be used on human subjects, for obvious ethical reasons, so he is using a non-invasive technique, in which an array of ultrasonic transducers is placed on the subject's head, which obviously has to be shaved, unless he is already bald. Efficient coupling of the transducers requires some form of lubrication, and the best material has been found to be Lurpak butter. The subject's head is first buttered, and the transducers, mounted in a sort of plastic skull-cap, are placed on his head. The transducers are then connected to an interface plugged into the QL expansion port. The subject is then made to experience various emotions, by showing him a variety of video-recordings of TV programs. The ventricular changes are then displayed on the QL's monitor, and logged on Microdrive cartridge for more detailed analysis later, on the university mainframe.

The experiments have been so successful that Prof. Umkopf intends to link several subjects together, using the QL networking feature. Since the transducers can be used, with high power amplifiers, to influence the shape of the ventricles, it should be possible to transmit emotions from one individual to another. This will obviously be of value in the treatment of certain psychiatric disorders. For instance, several patients suffering from depressive illness could be networked to a therapist, who would obviously have to be a cheerful individual.

Up to now Prof. Umkopf's investigations has been financed by the CIA and the US Dept. of Defence, but these organisations have decided that the research is not very relevant to their needs, and are not funding any future developments. Prof. Umkopf is therefore considering joining Sinclair's Metalab, where he will work on the electronic storage and transfer of emotions. Apparently, each emotion (fear, anger, happiness, etc) requires around 128K of storage, so this will be an ideal application for the 512K wafer scale integration storage device that is being developed at Metalab.

Avril Poisson

'THE PLUG' POWER CONDITIONER

I was recently sent a sample of a device called 'The Plug', which looks like an oversized three-pin mains plug, and is intended to go between a mains outlet and computer system. The device contains a mains filter and transient suppressor, and is intended to prevent electrical noise and high voltage spikes from interfering with the operation of the computer. I experience occasional problems of this nature, with the QL resetting itself or "locking up" when the central heating or 'fridge thermostats operate, and can say that 'The Plug' has proved to be very effective, in that I haven't had a single occurrence of this nature since installing it. Unlike most similar devices, a very detailed specification is supplied, complete with graphs of frequency response and voltage/current characteristics. I haven't got the equipment or time to check their figures, but they look very impressive.

The device costs £17.75 (inc.) and is available from:-

Power International Ltd.,
2A Isambard Brunel Road,
Portsmouth,
Hampshire P01 2DU.
Tel: (0705) 756715.

A cheque or Barclaycard number should be enclosed with the order. 'The Plug' is a bit expensive, but seems to do the job, and I recommend it to any member who is experiencing problems with their mains supply. It won't help if you have a power-cut, of course. If that happens you are stuck unless you have a UPS (Uninterruptible Power Supply) which is an expensive item.

Leon Heller

GERMAN GROUP

A German QL group has been formed. Further details are available from:-

Sinclair User Club,
Postfach 1011 53 5090,
Leverkusen, 1,
West Germany.

Noa Joerg.

A Z8-BASED INTELLIGENT PERIPHERAL

I am doing some consultancy work for a local company manufacturing small robot arms, for which we are using a Zilog Z8 processor. The Z8 is probably the most powerful and flexible single-chip processor available, and is ideal for use as an intelligent peripheral for the QL, that can be interfaced via one of the serial ports.

To help me develop the software for the robot arm I have designed a simple system using the Z8 with 2K EPROM and 2K RAM, that communicates with my CP/M system via the Z8's built-in UART. One of the functions of this small Z8 system is to act as an EPROM programmer, but it could also be used for driving a parallel printer, controlling a modem (like the ill-fated OEL QCON), controlling the central heating, and a multitude of other applications. It could even be used as a cassette interface, for reading spectrum programs and data into the QL. Now that

cartridges have come down to under £2, there is not much point in using cassette storage on the QL, however.

I have written a simple machine language monitor for the Z8, that incorporates a machine-code download feature, and EPROM programming routines. Software development is done on my CP/M system using a cross-assembler, but it wouldn't be very difficult to write a similar cross-assembler for the QL, either in SuperBASIC or C.

The system costs about £20 to build and could be constructed in an evening by anyone with a fair amount of hardware experience.

I will be writing a series of articles on this system for Electronics and Computing magazine, but can supply copies of the circuit diagram to members who would like to build the system before the articles come out. I can also supply EPROMS containing the monitor.

Leon Heller

DUST COVERS

Our company tried, unsuccessfully, to purchase dust covers for our QLs. We feel sure that other users have experienced similar problems. With this in mind, we have designed and made our own covers, and are able to offer these for sale at £4.90 each with a 10% discount to club members.

PI Computers Ltd.,
Corner House,
Biddestone,
Nr. Chippenham,
Wilts. SN14 7DF.

/ We were sent one of these dust covers, and it seems to work, in that it fits the machine, and keeps the dust off. I feel it is rather expensive at £4.90, however. */*

SAVING LARGE DOCUMENTS FROM QUILL

Just before Version 2 of Quill was released an improvement was made to speed up the saving of documents. Unfortunately, this had the side effect of introducing a bug which gives the error message "I/O incomplete". when saving long documents. The bug takes effect when the length of the document exceeds 32K - which generally would be the case with 10-20 pages in Quill.

Many Quill users are quite happy to keep within the the 32K document limit. However, if you are unhappy with this, we have produced a patch which removes the above mentioned "improvement".

To apply the patch, type in the following SuperBASIC program. Check it carefully, especially the numbers in lines 40 and 50, and save it just in case. Place a Microdrive cartridge with a backup copy of Quill into the left hand drive and type "run" to apply the patch. If it fails for any reason, reset your QL and check the program again. The program checks the code to be patched and so you are in no danger of patching the wrong program or the wrong version of Quill.

```
10 a = RESPR(55*1024)
20 b = 15584+a
30 PRINT "Loading...": LBYTES mdv1_quill,a
40 IF PEEK_W(b)<>20154 OR PEEK_W(b+2)<>2192 THEN GOTO 80
50 POKE_Wb,20081: POKE_W b+2,20081
60 PRINT "Saving...": DELETE mdv1_quill: SEXEC mdv1_quill, a, 51760,
1280
70 PRINT "Finished": STOP
80 PRINT "Wrong version - this patch only works on Quill 2.0"
```

Psion Support

```
/* I tried the Psion telephone support service on this one and was pleasantly
surprised to find it very efficient; I got the patch a couple of days later. The guy at
Psion knew I was involved with IQLUG, but I don't believe I was especially favoured.
*/
```

KEYDEFINE, BY PSIENTIFIC SOFTWARE

Barry Ashfield, who is Psientific Software, is one of our members, and he recently sent me a copy of his KEYDEFINE utility.

The program allows the user to redefine most of the QL keys, with up to 2K on each key. The user may assign a sequence of SuperBASIC commands to each key, or text for use in Quill or a text editor such as Metacomco's. The latter is especially useful as headings, standard paragraphs, and even complete letters may be called up with a single key stroke.

The keys behave normally, unless the "CAPS LOCK" key is pressed at the same time, like the "SHIFT" key, whereupon the text assigned to that key is generated at the current cursor position.

The program is written in machine code and will multi-task with other programs. It comes with several predefined "_key" programs, for use in SuperBASIC, Quill and editor/assemblers. For instance, "asm_key" can generate all the MC68008 assembler mnemonics with a single key stroke, saving a lot of typing. A program called "define" is used to create your own "_key" programs, which are simply run by "exec mdv1_fred_key", for instance, assuming "define" was used to create a program called "fred key".

This utility is excellent, and quite easy to use, although the manual could be improved. It works very well with disks, and I shall be using it with a "C_Key" program to speed up my C programming with the QC compiler. C uses a relatively small number of key words, and they could all be assigned to single keys.

The program is normally £9.95 but is available to IQLUG members for £6.50, provided you send a formatted cartridge (at least six times), and stamped strong envelope (9"X 6") to:-

Psientific Software,
37 Cottesmore Road,
Hessle,
North Humberside, HU13 9JQ.

Leon Heller

STICKY LABELS

Just a note on the use of sticky labels, tractor fed, on continuous stationery on a Juki 6100 printer.

Avery labels do not work. They peel slightly as the stationery travels round the platen, and then occasionally drag the stationery out of registration. Fisher Clark stationery, on the other hand, gives no problems.

E. Palfrey,
Coxboro' Cottage,
Cookham,
Berks.

AUTO RUN YOUR PROGRAMS

First, enter line 1 in your program as

```
1 XXX
```

XXX can be any characters. Save it to mdv, then enter and run the short program below:-

```
10 OPEN #3, mdv1(program name)
20 PRINT #3, " RUN "
30 CLOSE #3
```

Now load your program and you will see that it auto runs. If you put at line 2:-

```
2 CLOSE #0
```

it makes your program difficult to break into. Hope this is of some help to someone.

David Markl,
163 Thornaby Road,
Thornaby,
Stockton-on-Tees,
Cleveland,
TS17 6LG.

GETTING TO KNOW YOUR SINCLAIR QL BY STEPHEN MORRIS

This book, published by Duckworth at £7.95, is dreadful! It is full of mistakes, and a lot of the information it contains is quite irrelevant to the QL. A classic 'faux pas' by the author is in the section on BASIC. He mentions the structured programming features of SuperBASIC, but gives as a programming example a SuperBASIC program that makes absolutely no use whatever of the structured features of the language. The program is not error trapped, either, and will "bomb out if the user presses the wrong key. A calculation is repeated within a loop, whereas the program would be much clearer and run faster if the calculation was performed before entry to the loop. To add insult to injury, he then jumps out of the loop with a GOTO!

The publisher said that the book could be supplied at a discount to IQLUG members, I don't think we will be accepting the offer. If any member would like the book, let me know. its good for a laugh, if nothing else!

Leon Heller

A SOFT RESET FOR QDOS

In February's issue David Novotnik finds reset "an awfully useful button", and I do too. The only trouble is that one has to remember to remove the cartridges from the Microdrives, and this can be an awful bore especially with a persistent bug where you have to reset after every call or invocation of the routine being tested.

I suspect the need to remove he cartridges comes about because of the surge of current which you can hear making the loudspeaker pop. Anyway someone can put me right if this is not the case.

So, when BASIC has gone to sleep but you still find the scheduler at work, you may still press ctrl +C and 'zap!' QDOS.....

The colour settings given in the program can be easily modified by altering the colour values following \$C, \$27, \$29, \$28 which are 7. 5. 2. 5 for BORDER, PAPER, INK, STRIP respectively within the 'pars' byte vector.

Once the program has been successfully tested from BASIC following any changes that have been made into an independent task by stuffing the 'JOB' option and a zero stack space requirement to your assembler otherwise the working code if it was say to start at z after reserving memory by 'Z = RESPR(256),' can be saved in a job file by: "SEXEC Mdv1_ZAP,z,256,0" and later loaded as a job using: "Exec Mdv1_ZAP"

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```
0000          1 ; ZAP! RESET QDOS.
0000 45FA0098 2      LEA PARS,A2 ; →  PARAMETER BYTE SET
0004          3 OPN
0004 41FA0066 4      LEA CN,A0 ; →  CHANNEL INFO.
0008 6134     5      BSR S UNP ;      UNPACK
000A 72FF     6      MOVEQ #-1,D1
000C 4E42     7      TRAP #2 ;      OPEN CHANNEL.
000E 6128     8      BSR S TRT ;      CHECK FOR ERRORS.
0010          9 ; BORDER, PAPER, INK, CLS, INPUT.
0010 6120    10      BSR S TRP ;      SD. BORDER
0012 611E    11      BSR S TRP ;      SD.SETPA
0014 611C    12      BSR S TRP ;      SD SETIN
0016 611A    13      BSR S TRP ;      SD. CLEAR
0018 6118    14      BSR S TRP ;      SD SETST
001A          15 READ IN A FIELD OF BYTES INCLUDING LF.
001A 43FA009C 16 FL  LEA BUF,A1 ; →  BUFFER
001E 6112    17      BSR S TRP ;      IO.FLINE
0020 34C1    18      MOVE W D1,(A2)+ ; LENGTH FETCHED INC LF
0022 0C927A61 19      CMPL.L #ZAP!, (A2)
0026 7821
0028 6704    20      BEQ S RST
002A 5D4A21      SUBQ W #6, A2
002C 60EC22      BRA S FL
002E          23 ; 'ENTER SUPERVISOR MODE & RESET'
002E 4E40 24 RST TRAP #0
0030 4E70     25      RESET
0032          26 ;
0032          27 ; SUBROUTINES UNP (UNPACK!) & TRP (TRAP#3 & ERR)
0032 610A 28 TRP BSR S UNP
0034 4883     29      EXT.W D3
0036 4E43     30      TRAP #3
0038 4A60     31 TRT   TST. L D0
003A 6618     32      BNE. S EXIT
003C 4E75     33      RTS
003E          34 ;
003E 4CFA000F 35 UNP  MOVEM. L Z4_L D0-D3
0042 0040
0044 49FF004C 36      LEA W4_W, A4
0048 2A1A     37      MOVE.L (A2)+, D5
004A 0BCC0001 38      MOVEP.L D5,1(A4)
004E 4C94000F 39      MOVEM W (A4),D0-D3
0052 4E75     40      RTS
0054          41 ;
0054 122AFFFC 42 Exit  MOVE B -(A2),D1
0058 02810000 43      AND I.L #$FF,d1
005C 00FF
005E 49Fa0068 44      LEA SV_D01 A4
0062 48040003 45      MOVEM. L D0-D1, (A4)
0066 7002     46      MOVEQ #2,D0 ; lo CLOSE
0068 4E42     47      TRAP #2
006A 4E75 48      RTS
006C          49 ;
006C          50 PARAMETER & CONSTANTS BLOCKS
006C 0014     51 CN   DC W @2-@1
006E 636F 6E5F 52 @1   DC. B 'CON_64X32A128X192_16'
0072 3634 7633
0076 3261 3132
007A 3878 3139
007E 325F 3136
0082          53 @2  ALIGN
0082 0000 0000 54 Z4_L  DCB.L 4,0 ; ZEROS.
0092 0000     55 W4_W  DCB.W 4,0 ; UNPACK VECTOR.
009A 01FF 0601 56 PARS  DC.B 1, -1, 0, 1
009E 0C07 04FF57      DC.B $C, 7, 4, -1, $27, 5, 8, -1, $29, 2, 8, -1
00A2 2705 00FF
00A6 2902 00FF
00AA 2000 00FF 58      DC.B $20, 0, 0, -1, $28, 5, 8, -1, 2, 0,16, -1
00AE 2805 00FF
0082 0200 10FF
0086          59 ; BUFFER LEN & DATA
00B6 0000     60 BLN  DC .W 0
00B6 FF       61 BUF  DCB.8 16, -1
00C8          62 SV_D01
00C8 0000 0000 63      DCB.L 2, 0
00D0          64      END
```


LIBRARY ADDITIONS

I have recently sent the following programs to the IQLUG librarian,

1. Music

This includes a 'live keyboard' routine which can be written as one line:

```
100 beep 0,code(inkey$(50)) : goto 100
```

Based on this idea, i.e. every keyboard character corresponds to one of the 255 available QL pitches, the program permits saving and replaying of tunes at varied speeds. A sample tune is included.

2. Graphics

'Patchwork' draws a repeating patchwork of all available colours on the QL screen. 'Castles' draws a different coloured castle on each one.

3. Computer Consequences

Word processing for kids age 5 to 10: permits one child or a group to write a story, one sentence at a time. Saves story, which can be continued later.

4. Quiz [Copyright IQLUG 1985: available for £1]

An interactive educational game for children age 7 upwards. Up to 40 sessions with one or several children are recorded; the computer makes use of knowledge about the children and about their topics of conversation, in subsequent sessions. The program uses some simple AI techniques [partly based on K. & S. Brain, Artificial Intelligence on the QL, Sunshine] to make the dialogue genuinely responsive, within limits.

Each session takes a child around half an hour. The first session with each child is about **names** and about **food**. The second and subsequent sessions with each child are about a topic of their own choosing: however the QL compares each new topic with those it has previously discussed, and tries to make relevant remarks: these are often hilarious.

This program could be developed a lot further: I would welcome the participation of other IQLUG members in this.

5. AutoDraw [Copyright IQLUG 1985: available for £1] . This program is described elsewhere in this issue.

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AutoDraw Interactive Graphics System for the QL

This article describes the specifications of the AutoDraw interactive graphics system [Copyright Independent QL Users' Group, 1985] which I have deposited in the IQLUG library, and which is available at £1 to members. Interested members are invited to participate in improving the program, along lines suggested at the end.

INTRODUCTION

The AutoDraw system (1) implements QL SuperBASIC graphics commands interactively, by means of single key presses wherever possible; (2) saves the resulting screen image as a sequence of commands in a readable file which may itself be manipulated or created within a standard QL screen editor; (3) replays previously saved images either

as originally typed; or in any combination of: [i] varied cursor position; [ii] varied scale; [iii] varied angle [angle variation only affects cursor moves, not arcs, lines or points]; [iv] saves files Which themselves contain replays of previously saved files, themselves containing replays ..., including recursive replaying of the file itself.

SIMPLE USE

The system offers a menu comprising the following possibilities:

←↑↓→ = rectangular pen moves at current scale and angle
← = increase/decrease clockwise angle at which the rectangular grid is aligned.
= = sets angle to 0[=default].
0,1,2 ... 7 = primary colours [7=white=default]
i = ink: calls subsidiary menu inviting any of 255, or random, colours. Offers sample and chance to try again.
a=auto: when pressed, pen will draw continuously.
O[=default] =auto off and fill off. Pen will draw only when cursor arrows, move, etc., so direct it
b=box: draws box around picture so far. Subsidiary menu permits altering box. (p=point easily defines new box)
c=circle at current cursor position and radius
^=reset radius [10=default].
e=end. Clears axes and menu screens, closes files.
F=SuperBASIC fill on. Prominent flashing 'FILL' warning. Cursor position always indicated by yellow dots on axes.
k=ark from current cursor to new position (see p)
l=line from current cursor to new position (see p)
m=memory. Shows current cursor position, scale, angle, orientation, scale, ink. 9 memory points save all these.
n=angle. Specify exact angle, or random alteration.
p=point. Whatever the scale, point and (arc and line) are always specified in terms of axes beside screen, i.e. 0<X<160; 0<Y<100. 9 memory points are available.
R=replay saved picture. either as original or at cursor.
s=save picture as series of codes. Note saving must be started before the picture is begun. e to end)
u=dump. Options are: screen dump to printer or file, with/without menus and scales; load screen from file.
z=scale. Free choice of scale with unchanged cursor.
*=move at current angle. Set number, or 0<random<10.

ADVANCED USE

The full strengths of the system become apparent when 'replay' and 'save' are used together, and also in combination with two special instructions, 'edit' and 'do'.

Replay within save

When a picture being drawn (say, a bush) involves repetition (say a rose flower), it is convenient to write the repeated element in a separate file, then replay it at each required point. When saving, the replayed file will be copied into the current file. [this is like a 'macro' in Assembly language].

Editing

This is a special kind of replay within save, which traces through the replayed picture, inviting choice at each point:

t=edit. If already saving, edited file will be added to existing file. Else, new file must be named. Within edit the options at each step are: a=accept, d=delete, i=insert, r=reconsider.

The normal use of 'edit' is to correct an error, e.g. a missing '0' (fill off) or ink or radius alteration, or an incomplete saved instruction or picture (if saving was Interrupted). But it is also useful as a selective replay.

Doing

At a given cursor position,
d=do. A named picture will be 'quoted' at the current
cursor position, at any scale and at any angle [angle
only affects cursor moves, not arcs, lines, or points].

When saving while doing, the name of the quoted picture is written into the quoting file, unlike
replay which copies the whole file.

Replaying within replaying

This presents no difficulty: since a file saved while replaying contains no reference to the
replayed file, only the instructions copied from that file, it can be replayed itself while saving, ad
infinitem.

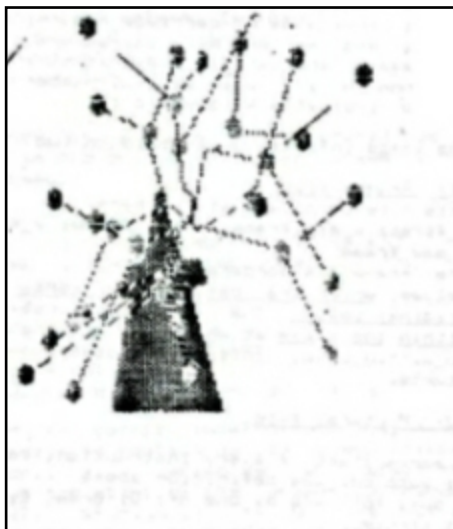
Doing within doing

The 'do' routine recursively calls the 'drawer' procedure which called it. When a picture
containing 'do' instructions is itself 'done', then further levels of recursion arise. There is no limit to
the possible degree of complexity here.

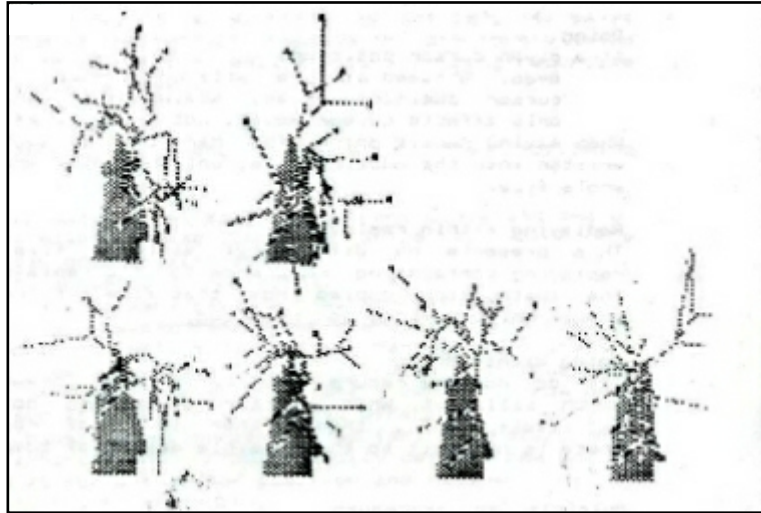
Multiple 'do' procedure

Any picture not containing a D = do instruction can be expanded or contracted to fill the
screen n times, where $0 < n < \text{infinity}$, by typing: do 'picture',n

For example, tree_picture can be reproduced once, by do 'tree',1 as follows:



Alternatively, it can be reproduced 6 times, by do 'tree',6 with this result:



CODING OF IMAGE

[In the following description, note that:

- '|' IS a character in AutoDraw code
- '*' IS a character in AutoDraw, it IS NOT a wildcard
- '.' indicates ENTER. ':' IS NOT an AutoDraw character
- ';' indicates no carriage return: it IS NOT a character
- ',' and '=' ARE NOT characters.
- 'aaaaa' indicates an alphabetic string
- 'nnn.nn' indicates decimal number
- 'd' indicates single digit]

The image information is held in two files:

1) 'Frame' file

This file comprises six numbers:

x_first: x_min_frame: x_max_frames: y_first: y_min_frame: y_max_frame.

The 'frame' is bordered by the x and y 'min' and 'max' values, which are defined in terms of the axes of the original image. The (x_first,y_first) point is the position within the frame at which the drawing began. In replay and in do_within_draw, this is the position from which auto-drawing starts.

(2) 'Picture' file

| marks start of every Instruction, followed by one of:

A; auto on: see definition above

B box, followed by one of: **D;** draw, **E;** end, **S;** start box, **C;** circle

D do, followed by **aaaaa:** picture name, followed by:

[nnn.nn] scale, default 100,

[nnn.nn]: angle, default 0 degrees

E| end, note the | marker concludes the file.

F fill on

I followed by: **nnn:** ink number or **R:** random

K arc, followed by:

nnn.nn: = horizontal destination or **M:** = memory

nnn.nn = vertical destination or **d:** = memory no.

nnn.nn = angle

L line, followed by:
 nnn.nn: = horizontal destination or **M**: = memory
 nnn.nn: = vertical destination or **d**: = memory no.
M followed by % do nothing, followed by **Pd** = set memory point
N angle, followed by **nnn.nn**: = change in current angle,
 or by **R**: **nnnnn.nn**: = random change within given limit
allowed by 2 do nothing,
O auto off and fill off
P point, followed by:
 nnn.nn: = horizontal destination or **M**: = memory
Nnn.nn: = vertical destination or **d** = memory no.
R replay, followed by **aaaaa**: picture name
 [**R** is never saved by AutoDraw, but may legitimately be written into a file
 created by a screen editor]
Z scale, followed by:
 nnn.nn: = new scale, or
 Vnnn.nn: = variation in existing scale
 [The **ZVnnn.nn**: is calculated and saved by AutoEdit, but the **Znnn.nn** could
be created by a screen editor]

←,↑,↓,→ = move 1 at given angle +180, 90, 270, 0 respectively
***d** = move d at given orientation
[AutoDraw cumulates repeated arrows when key held down]

^ radius, followed by **nnn.nn**: new radius (initially 10)
+, - (or _) increase or decrease current angle by 10
= restore angle to zero (initial value)

Instructions R, S, T, U, Y would not normally appear in a file

S save, followed by **aaaaa**: picture name
T edit, followed by **A** accept, **D** delete, **I**: insert, **R** reconsider.
 followed by **D** or by **I**:
U dump, followed by various options
Y return to edit after insertion

PROGRAM STRUCTURE

Briefly, the structure of the program is elaborated upon a single 'SElect ON'
loop in the procedure called 'drawer'. The following channels are used:

##0 = menus
##1 = picture screen
##3 = saving [If saving interrupted then close #3]
##4 = not used: available for printer (Open#4,serl)
##5 = flashing messages
##6 = vertical scale
##7 = horizontal scale
##9 = reading and writing frame files
##10 = first replay channel
##11,##12, ... = recursive replays in 'do' calls

NOTE

This program is designed to permit indefinitely recursive 'doing' of pictures themselves containing 'do' instructions. For this purpose the 'original_' variables, and also the memory array, listed at the start of the 'drawer' procedure are intended to be LOCAL. Unfortunately my QL runs out of memory when these statements are implemented, so they appear only as remarks. To unlock the full power of your QL, remove the REM prefix! I would like to hear whether this works, from users with memory expansion boards.

SAMPLE _picture FILES

The following is a small image which is included with the draw program, which is then replayed (i.e. copied) twice into `branch_picture`, which is in turn **replayed** (i.e. copied) six times into `tree_picture`. The picture file is on the left in bold. Explanatory comments appear on the right.

twig_picture

};P40	Point horizontal 40 [NB: P ignored in Replay from Cursor]
49	vertical 49
};*R	move 0<=random<=10 at current orientation
};^1	Radius 1 until further notice
};MP	set Memory Point [ink,scale,orientation,position,angle,radius]
1	no. 1
};N45	angle altered by +45 degrees
};*R	move random [as above]
};*R	move random [as above]
};4};F};C};O};PM	ink 4 (green): Fill: Circle: Off: Point Memory
1	no. 1 [see details above]
};N-45	angle altered by -45 degrees
};*R	move random [as above]
};*R	move random [as above]
};4};F};C};O};PM	ink 4: Fill: Circle: Off: Point Memory
1	no. 1 [as above]
};I202	Ink 202 (pink)
};F};C};O};E};	Fill: Circle: Off: End

This draws a stick branching into two, with a green leaf at each end and a pink flower at the junction. The colour of the twig is not defined, so it takes on the colour set by whatever picture replays twig.

scene_picture

Going from the ridiculous to the sublime, the following extract from scene shows how economical the AutoDraw code can be when the D = do instruction is used. The previous section of the code drew light blue sky, a green hill, and a yellow sun.

};P20	at point horizontal 20,
50	vertical 50,
};Dtree	do tree_picture
75	scale 75 (ie 100/75 x original size)
0	angle 0 (ie original)
};P150	at point 150,
50	50,
};Dbush	do bush_picture
500	at scale 100/500 x original size
0	at original angle.
};P170	at point 170,
40	40,
};Dbush	do bush_picture
500	at scale 1/5 of original,
0	at original angle.
};P80	at point 80,
35	35,
};Dwashing	do washing_picture
75	at scale 100/75 x original,
0	at original angle.
};P120	at point 120,
37	37,

```
!Dbike      do bike_picture
500         at scale 1/5 of original,
0          at original angle.
!P70       at point 70
35        35,
!Dbike      do bike_picture
200        at scale 1/2 of original,
0          at original angle.
!P95       at point 95 horizontal,
-5        -5 vertical (ie just off screen),
!Dbike      do bike_picture
75         at scale 100/75 x original,
0          at original angle.
!E!
```

The resulting scene is shown below. This can be accurately replayed at the original position, but cannot be repeated correctly in any other mode.

FUTURE DEVELOPMENTS OF AutoDraw PROGRAM

If there is sufficient interest, the following are logical future developments:

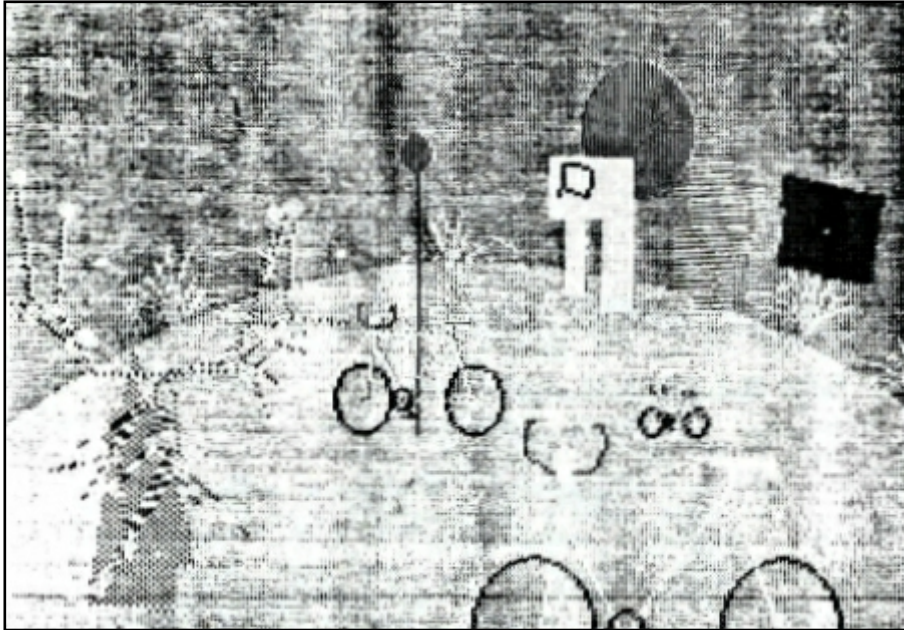
- (1) more economical writing of SuperBASIC program
- (2) wherever possible, write sections in machine code: probably it would be worth reading the _picture files into an array, and from there, transmitting them more rapidly, into the drawer procedure than is presently possible, using SuperBASIC INKEY\$, one character at a time. This might speed up replay enormously.
- (3) implement facilitate full recursive use of D = do
- (4) 'intelligent front end', so that instructions such as do 'tree and 5 bushes on hill; washing and 3 bikes' could be drawn automatically
- (5) automatic perspective, so that all P = point instructions would refer to a 3-dimensional space, with automatic scaling and colouring to represent distance.
- (6) machine code routine to read _picture files
- (7) LISP routine to read _picture files

The participation of IQLUG members in any of these tasks would be most welcome!

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HELP!

John Mellor of 75 Whitehouse Park, Newtownabbey, Co. Antrim, BT37 9SH is having problems getting a Taxan/Kaga printer to print from Easel, and doing screen dumps. He's been trying from last October: Can anyone help?



Using SuperBASIC

As I mentioned in BUGS IN THE BASIC, I am writing software for structural analysis. One of the functions I required was to draw the shape of a framework to ensure that what the user had entered and was held in the computer was the shape that the user had intended. I was surprised how easily this could be achieved in SuperBASIC using the SCALE and LINE graphics functions.

The original input filled a two dimensional array with the co-ordinates of the the node points in the x and y axes and a further 2d array with the node reference at each end of each member. These are $co(node,xy)$ and $m\%(member,end)$ respectively. The number of nodes-1 (to use the zero array element and conserve memory) is held in variable rn and the number of members-1 is held in rm .

The PROCedure DRAW_FRAME does the whole job using the above information. It first finds the minimum and maximum value of the x and y co-ordinates and places the minimum and the range in an array $cd(function, xy)$. It next opens a screen channel to occupy most of the screen, compatible with TV or monitor and leaving room for a prompt at the foot of the screen. Then the SCALE is determined by the largest range of x or y, corrected for the shape of the window by the 1.4 factor, and the bottom left limit of the window is defined by the minimum x,y co-ordinates. This means that either the shape will fill the height of the window or it will fill the width without any part of the frame lying outside of the window. The final step is to draw a Line between the node points at the end of each member. The FuNctions MAX and MIN are also listed to verify their obvious meanings.

FuNction SGN is included only to demonstrate more compact code.


```
6460 DEFine PROCEDURE DRAW FRAME
6480   LOCAL p,q,cd(1,1): FOR k=0 TO 1
6500   p = 1E300: q = -1E300: FOR i=0 TO rn: p = MIN (p,co(i,k)): q=MAX
      (q,co(i,k))
6520   cd(0,k) = p:cd(1,k)=q-p
6540   END FOR k: MODE 4: CLS: OPEN#3,scr_450x230a50x10:
      PAPER#3,7: INK#3,0
6560   SCALE#3,MAX(cd(1,0)/1.4,cd(1,1)),cd(0,0),cd(0,1): FOR j=0 TO rn
6580   p=m% (j,0): q=m%(j,1): LINE#3,co(p,0),co(p,1) TO co(q,0),co(q,1)
6600   END FOR j: CLOSE#3
6620 END DEFine DRAW FRAME
6640   :
11320  DEFine FuNction MAX (a,b)
11330   IF a>b: RETurn a: ELSE : RETurn b
11340  END DEFine MAX
11350  DEFine FuNction MIN (a,b)
11360   IF a<b: RETurn a: ELSE :RETurn b
11370  END DEFine MIN
11380  DEFine FuNction SGN (a)
11390   IF a<0: RETurn -1: ELSE   : RETurn a>0
11400  END DEFine SGN
```

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PSION NOTES

Just a few notes on the Psion Version II Software and the QL which may be of interest to fellow QL Users

On the new Psion packages there are some functions that are not documented:-
Shift + F4 will prompt for "Backdrop colour number" and when entered will change the colour of the background or border (Easel).
Shift + F5 will redraw the entire screen.
Shift + any other function key appears to clear the prompts from the bottom of the screen.

Another point is that the packages now return to SuperBASIC with the Boot programme intact and can therefore multi-task with clocks or Basic programmes etc. To do this the Psion boot programme needs to be changed to read EXEC in place of EXEC_W.

By the way does anyone know what EXEC_W does. My User Guide is an early one and does not cover all the commands like "RESPR" etc. I have written to Sinclair for an update but as yet no luck. Which I think is a bad show. But to give Sinclair their due, they did supply me free of charge the QDOS Manual after I had sent them about 12 Pages of my notes on the QL.

One other point is that both file specs and wafer names can have illegal characters within them. To do this just make the file spec a variable then use it in the normal way,FORMAT "MDV1_" & NAME\$. Be careful this can produce entries that cannot be deleted from a directory.

Is anyone out there willing to send me a Microdrive wafer dump of the latest QL ROM "JS" or is it "JP"? I am comparing the various versions of ROM and this latest version would appear to have many new commands such as Error catching etc.

Other problems that I have not yet been able to get working yet and one's which fellow QLers may be able to help on are:

- 1). Has anyone got the command 3 (^) 4 to work yet?
- 2). When inputting a file by String\$ an error is reported "Buffer full". Does anyone know how to increase the buffer size?

Any answers to the above will be very welcome and save me hours of keyboard bashing. Many thanks to our two leading lights, Leon and Brian, the newsletter is very much appreciated.

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PUZZLE about KEYBOARD BOUNCE in QUILL

It is fairly clear that some QL users are infuriated by keyboard bounce, and others find it tolerable. Certainly, with the upgraded PSION programs, the amount of bounce is reduced, but it is still, for me, unpleasant. In my case, the bouncing letter very often deletes the following one, and I get words like 'ssme': 'occcsion': 'eeough': although words like 'geet' (get) commonly occur. Norman McLeod kindly pointed out that the bounce parameters (say, N and R) are kept at 163980 (\$2808C) and 163982 (\$28008D) and are 30 (\$1E) and 2 for the JM version of QL. I modified QUILL's BOOT program (as shown) to include POKES to enable these to be changed. Sure enough, if one puts N=0 then all keys pressed produced triplets or more. But I still find plenty of misprints if I increase N to 60 or 120, and I am fairly certain that it has made no difference to the first kind of bounce, although the keys get to feel 'gluey'. The 'R' parameter decides the key repetition rate, and I do not find that it significantly changes the situation - setting R=0 does not change speeds of cursor movement but increasing R from 2 to 20 increases the time the cursor crosses the screen from 7 to 25 seconds (which is of course a nuisance). I will continue experiments but would welcome comments from other members.

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```
&100 CLEAR
110 WINDOW 512,256,0,0: CSIZE 2,1: CLS
120 N=30: R=2
130 REMark Alter N for debounce
140 REMark and R for repetition rate
150 POKE_W 163980,N
160 POKE_W 163982,R
170 AT 2,11: PRINT "LOADING QL QUILL"
180 AT 4,13: PRINT "version 2.00"
190 AT 6,4: PRINT "copyright 1984 PSION SYSTEMS"
200 AT 8,12: PRINT "word processor"
210 AT 10,6: PRINT "with Parameters of '!N! ' And '!R!'"
220 CLOSE #1: CLOSE #2: WINDOW #0,400,20,35,215
230 EXEC_W mdv1_quill
240 OPEN #1,scr: OPEN #2,scr
250 DEFine PROCedure psave
260 f$= 'mdv1_BOOT': DELETE f$: SAVE f$
270 END DEFine
```

LIBRARY - An appreciation

Quanta Vol 2 Issue 1 noted that we have a new volunteer, Alan Bartram, as principal librarian as Rob Sherratt had to resign the position. I would like to record that we owe a debt of gratitude to Rob for the not inconsiderable task he undertook, and to his wife for the forbearance when having their first child. If he had done no more than develop that super fast copy program which is available to all members at the very nominal charge of £1, it would be cause for a vote of thanks but the job was very demanding and he handed over to Alan a very orderly and large library base which will very soon be available to members.

While on the subject can I make a plea on behalf of Alan. His job could be much simpler if those making contributions would ensure that not only are programs fully debugged and designed to provide the WINDOWS which they require etc. etc. but that when they comprise several files that each file starts with the same name so that when they are grouped on a library disk it, is quite clear that they belong together otherwise they could get separated onto different disks quite easily.

Please conform to the standard suffixes for files.

_bas	for all SuperBASIC files including name_boot_bas etc.
_code	for bytes to be loaded directly into memory.
_Dat	for sequential files to read by a program.
_Exec	for executable files.
_doc	for any file intended to be read using Quill

etc. etc.

John Tanner,
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Bristol.
BS9 4HL.
Tel: 0272-623401

Creating DATA statements

One method commonly used by authors for passing on a machine code routine to others (for example, publishing in 'QUANTA') is to provide a loader program of some sort, which the recipient can type in as a normal BASIC program, then RUN to install the machine code. The values of bytes in the machine code are held within DATA statements, and these are READ sequentially, and POKEd into position, ready for the machine code to be CALLED.

Quite frankly, this method is tedious for the person producing the loader program. Having created the machine code routine, usually with an assembler, the author then has to read all the values, and type them one by one into DATA lines, checking very carefully that no mistake has been made.

Fortunately, the QL's flexible file capabilities allow DATA lines to be created automatically using a simple BASIC program. I have written a short program to do this, and the listing is shown, below.

With the machine code safely installed in a known area of RAM, RUN the routine below, entering the first and last addresses of the code (in decimal) when requested. In a few seconds, all machine code bytes will appear in DATA statements, with the rest of the program deleted.

```
10 INPUT "start address "; start
20 INPUT "end address "; endadd
30 DELETE mdv1_temp
40 OPEN_NEW #4, mdv1_temp
50 line_no=1000
60 REPEAT loop
70     a%=line_no&" DATA "
80     count=0
90     REPEAT inner
100        k= PEEK (start)
110        a$a$a&k
120        IF count=7 THEN EXIT inner
130        IF start=endadd THEN EXIT loop
140        a$a$a&" "; count=count+1
150        start=start+1
160    END REPEAT inner
170    PRINT #4,a$
180    line_no=line_no+10
190 END REPEAT loop
200 a$a$a&"-1"
210 PRINT #4,a$
220 CLOSE #4
230 MERGE mdv1_temp
240 DELETE mdv1_temp
250 DL1NE TO 250
(note "£" should be the hash symbol) - # symbol entered in archive reprint.
```

The DATA lanes can be SAVED as they are, or a simple loader routine, such as that given below, MERGED in to provide the complete loader prior to saving. The DATA line creation routine automatically places a ' -1 ' value as the last byte, which is tested in the loader routine as the end marker.

```
10 a= RESPR (space)
20 REPEAT loop
30     READ x: IF x=-1 THEN EXIT loop
40     POKE a,x: a=a+1
50 END REP loop
60 STOP
```

David Nowotnik,
12, Long Plough,
Aston Clinton,
Aylesbury,
Bucks.

RECURSION

Recursion is a powerful feature of SuperBASIC, but using It is not so easy. The following is a recursive function which converts decimal numbers to hex, a problem which is just right for a recursive solution.

```
30000  DEFine Function HEX$(num)
30010      LOCal remainder
30020      IF num <16 THEN RETurn CHR$(48+num+7*(num>9))
30030      dividend = INT(num/16)
30040      remainder= num-dividend *16
30050      RETurn HEX$((dividend))&CHR$(48+remainder+7*(remainder>9))
30060  END DEFine
```

It converts the number to HEX one digit at a time, but contrary to appearances, it converts the most significant digit first. This is what is called tail recursion because the recursive call is

in the last statement of the Function. That RETurn statement is evaluated from left to right so the recursive call to HEX\$ is made before the conversion of the remainder to a HEX digit. Consequently the calls to HEX\$ continue to spiral downwards until num<16 and the simple RETurn is triggered. The recursive calls then unwind with the digits being added from the most significant to the least significant. Because it happens in this order remainder must be a LOCAL variable, so that each call to HEX\$ keeps its own value for remainder. The function will give an overflow error if num is greater than 16^9 because INT cannot cope with numbers this size. Personally I don't want to convert numbers larger than this to HEX anyway so it should be suitable for most purposes.

The problem of writing a recursive function to find Fibonacci numbers has been puzzling me since the December issue reached me. I can see why it takes so long, but I can't see a way of doing it better, using recursion. The problem is that the recursive call contains two calls to itself. Since the expression will be evaluated from left to right at each recursion, the calls will spiral down until n=2. On the way up the second call to Fibonacci will be evaluated, at every level, in the same way. Thus to calculate Fibonacci (71) the function is actually called 1,346,269 times! The function is actually called for the same number of times as the Fibonacci number it is calculating. Naturally this takes a long time. What is needed to make it efficient, as well as elegant, is a recursive call which only has one call to the function. I haven't managed to work one out yet though so if anyone has any ideas I would like to hear from them. Too many puzzles for sleepless nights is not good for me.

David Coles,
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Biggleswade,
Beds. SC16 ODG.
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DETAILS OF APPLICATION OF EP44 TO QL INTERFACE.

1. The Input Output interface can be used when the mode selector is set to TERMINAL. (Page 33)
2. The MODE key should be used to set the parameters for Psion Programs as follows:-

a.	BAUD RATE	300
b.	BIT LENGTH	7
c.	PARITY	N
d.	NEW LINE	CR+LF
e.	CODE	8 BIT
f.	ER	Y

3. The Printer Driver from 'install_bas' parameters should be set as follows:-

DRIVER NAME	EP44	Or whatever.
PARITY	NONE	
BAUD RATE	300	Any faster is left behind.
LINES/PAGE	66	Or whatever.
CHARACTERS/LINE	80	Seems logical.
CONTINUOUS FORMS	YES	or 'NO' as you will.
END OF LINE CODE	<CR>,<LF>	For Psion Programs.
END OF PAGE CODE	<FF>	
PREAMBLE CODE	NONE	Not required with EP44

POSTAMBLE CODE	NONE	Not required with EP44
EMPHASIS ON	DEF	
EMPHASIS OFF	DEF	
UNDERLINE ON	DEF	EP44 has a backspace code.
UNDERLINE OFF	DEF	
SUBSCRIPT ON	NONE	
SUBSCRIPT OFF	NONE	
SUPERSCRIPIT ON	NONE	With EP44 to T/W 'ESC+E'.
SUPERSCRIPIT OFF	NONE	With EP44 to T/W 'ESC.R'.
TRANSLATE 1	"£,156	YES IT WORKS?
TRANSLATE 2	NONE	

D.C. Williams

PRINTING MULTIPLE COPIES

This Utility Programme will allow you to make Multi Copies of Quill Documents. When you have finished your Document you must save your document as a file including all the Printer codes.

To do this you must do the following. Press 'F3', 'P', 'Enter', 'Enter', when Quill asks you if you wish to use the printer type in a file name e.g. 'mdv2_test'. The Command display should look like this:-

```
PRINT, current, whole to mdv2_test.
```

When using this Utility program, it will prompt you for all the information it needs. If you get any of the information wrong, it will ask you for the information again.

```
100 REMark Multi Copy Printer programme.
110 REMark For use with the Quill word processor.
120 REMark By J.W.ROBINSON.
130 REMark April 1985.
140 REMark
150 CLS#0
160 INPUT#0; 'number of copies? ';no
170 IF no<1 THEN GO TO 160
180 INPUT#0; 'Which port "Ser1 or Ser2" ? ';port$
190 IF LEN(port$)<4 THEN GO TO 180
200 INPUT#0; 'Name of file to be copied.' ;name$
210 IF name$= "" THEN GO TO 200
211 a=('lis' INSTR name$)
212 IF a=0 THEN name$=name$&'_lis'
220 INPUT#0; 'Which drive if file on "mdv1 or mdv2" ?'; drive$
230 a=('mdv' INSTR drive$); IF a>0 THEN GO TO 260
240 a=('flp' INSTR drive$); IF a>0 THEN GO TO 260
250 a=('fdk' INSTR drive$); IF a>0 THEN GO TO 260
260 IF a=0 AND drive$>"0" OR drive$<"9" THEN drive$='mdv'&drive%
270 a=('_' INSTR drive$)
285 IF a=0 THEN drive$=drive$&"_"
290 FOR loop = 1 TO no
300 COPY_N drive$&name$ TO port$
310 OPEN#3; SER1 : PRINT#3;CHR$(12) : CLOSE#3
320 END FOR loop
330 STOP
```

When Quill saves a Document as a printer file, it will add "_lis" to the end of the film name. My programme will add this to your file name if you do not put it in when asked for the file name. Also when you are asked for the Drive name and you put '1' for 'mdv1' then the program will add mdv for you. If you wish to use a Disk drive you must use the full name i.e. 'FLP1' or 'FDK1' depending on which type of drive you have.

J. W. Robinson

ARCHIVE

1. This note is to offer warm thanks to you for your suggestion last week that I might telephone Sandra Essex for help in resolving the difficulty I was experiencing with Archive version 2.0. and especially to Sandra for the ready and effective advice she gave me.
2. It may be worth explaining the problem and solutions in a little detail for the benefit of other beginners in computing and particularly in the use of Archive, though first I should say that, like others, I find the latest version of Archive (and that of Quill) vastly better than the two earlier ones. I find it more exasperating when something goes wrong, however, because I have almost stopped expecting the worst! and the need for more RAM is more apparent especially in a Quill document extending beyond about 1000 words.
3. I have recently "created" an Archive database of modest dimensions (150 records x 14 fields) containing the names and addresses etc. of a small association. Some 50 more records will have to be entered as soon as I can get the data and the whole will need checking and correcting before the database can be put to its first use, the printing of a directory containing a selection of the recorded items. Thereafter, there will be frequent additions, deletions and adjustments, and periodical reprinting of the directory. For the directory to be of any value, the entries both initially and subsequently must be in alphabetical order of surnames. These requirements seem to me very obvious and elementary ones which will arise more often than not when a database is used to record and service the membership of a small club or association. These needs are, no doubt, typical of the needs the QL in conjunction with Archive was intended to meet, and I expected both the manual and the one or two books I have covering Archive applications to deal with them explicitly. So far as I can see, they are not even recognised!
4. After "inserting" the data in the same order as in the source document, I had no difficulty in "ordering" the records alphabetically by surnames for display on the screen. But on "closing" the file to save the records in the revised order, I found that mdv2 remained stationary and when the file was "opened" the data re-appeared on the screen in the original order. An Archive program based on the "dolabel", "doline", and "despatch" procedures on pp 25 and 26 of the Archive section of the manual (12/84) gave a printout containing the data I wanted but in the original order despite re-ordering alphabetically by surname at the QL. I then experimented with a test database of only four records. This would save in the revised order, mdv2 becoming quite active, but the printout stayed obstinately in the original order.
5. Sandra Essex offered a treble-barrelled solution. First, she suggested that, instead of "all".... "Endall", as shown in the despatch procedure in the manual, I should use "first", "while not eof()", "next", "endwhile". This was immediately successful. It appears that "all"...."Endall" scans the file as quickly as possible but "not, in general, in any particular sequence" (see 'ALL' on p 41 of the manual), whereas the use of "first" and "next" in the program ensures that the records are presented to the printer in the order in which they have been "ordered" at the computer. All this may be obvious to experienced users of databases, but it is far from obvious to those cutting their teeth on Archive.
6. The second suggestion was that using "backup" after re-ordering the records should produce the file copy I wanted with the data packed more efficiently on to the cartridge. The manual (pp 6 and 42) treats "backup" superficially and it is not clear to me how its use can result in transfer of the data from mdv1 to mdv2, in the order being changed to accord with the order in which the data are

recorded in the computer. However, I was able to re-order the file by this means (perhaps for once the revised order was imposed on the file when I closed it prior to backup and I failed to notice the busy mdv2_ but I have not been able to repeat the performance in producing a backup copy with records in their original order! What is clear is that my master copy of Archive is not saving files with the records in their re-ordered sequence as it should, according to the Help file (see under File , Order) and I must return the cartridge to Psion.

7. Sandra's third suggestion was that there were several advantages in inserting the original data and subsequent additions and changes through a program which,inter alia, ordered the records appropriately as they were inserted. In effect put the "cards" in the right places in the "card index". I shall certainly follow this advice as soon as I have established a satisfactory program, but the need will remain for occasional printouts of the records, or of selections from them, in different orders.
8. When I mentioned to Sandra that I intended to write to you and explain the problem and its solutions, she asked me to say that, although she has, with help from the study of Charles Dillon's monograph on Archive, acquired a fair working knowledge of Archive and of the practical solutions to the problems it throws up - and is happy to share it with other members of the Group - she is not a computer expert and cannot help with queries about the inner mysteries of the QL loaded with Archive!
9. I am copying this letter to Sandra.
10. Once again congratulations to all concerned on the continuing high standard of QUANTA, but when is the Group going to get a decent printer? I believe many members would agree that it should have high priority in our budget.

H. J. Millem,
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S. Croydon,
Surrey. CR2 7HU

COMPUTER ONE FORTH V 2.00

In reply to Dr Stother's letter in your Feb issue of QUANTA, I would like to make the following points:

It is fair to say that our early version of FORTH-83 distributed in 1984 has some early bugs (which early QL software did not ?) The current version of FORTH (2.00) runs as a QDOS job and is a completely updated version with full multi-tasking facilities, and a complete FORTH macro-assembler. Users will find that this is a full version of FORTH-83 with many extensions. Buyers should recognise that they are buying a very comprehensive version of FORTH - a similar version on the VAX costs over £900!

We apologise for the inconvenience that this may have caused our customers. Existing users of Computer One Forth may update for a charge of £10 including VAT, postage and packing. (The old FORTH manual should also be returned). The retail price of Computer One FORTH is now £39.95.

Paul Ives
(Computer One)

Reloading a BASIC programme into Quill

Loading a BASIC programme into Quill for printing or editing couldn't be easier. The procedure for doing this is as follows:-

-After resetting or typing 'NEW', load the desired programme.

-reSAVE it with " doc" added to the end of the file name.

-Load Quill. Press "F3" for commands, "O" for other, "F" for files and "I" for import. The File name asked for should be whatever you saved it as, plus the "doc".

-The programme should load into Quill and will be ready for editing and/or printing.

"QUANTA" has been very interesting for the last six months so I am renewing my subscription. Keep up the good work!

Yours computingly,
Robert Noble (Age 14)

RECOVERING CRASHED QUILL DOCUMENTS

J.S.Medhurst's technique, (QUANTA 1.11 p 20: Copy def_doc to gash_doc: Print gash_doc to gash_lis; Import gash_lis) doesn't work for me (AH version ROM with Quill 1.03), because the import command always leaves me with a frozen keyboard. However, it is sometimes possible to load gash_doc into Quill successfully. On two occasions, the command <Print gash_doc to gash_lis> brought the document on to the screen for editing, but this is something that I have not been able to repeat.

If all else fails, <Copy mdv1_def_doc to Ser1> at least gets a paper copy of the document, though one has to turn the paper on line by line. This is easier if one has first instructed the printer to print in condensed characters.

```
100 open#5,Ser1
110 print#5,CHR$(15)
120 close#5
```

What is desperately needed is a utility that will repair crashed Quill documents so that one can get them back in working order. I use the QL for writing articles and books, and my emotions on loosing a day's work are indescribable. Yes, I know that "you should always make a backup": often enough it is just that process that wrecks the document.

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Liverpool, L69 3BX.

LIBRARY INFORMATION.

THE NEW ADDITIONS TO THE LIBRARY ARE NOW AVAILABLE AND COMPRISE OF THE FOLLOWING NAMED CARTRIDGES.

1. DASM XDR (THERE ARE 2 X £1 OPTIONS ON THIS CARTRIDGE)
2. LIBRARY 3.
3. LIBRARY 4.
4. LIBRARY 5.
5. LIBRARY 6. (THERE ARE 2 X £1 OPTIONS ON THIS CARTRIDGE)
6. LIBRARY 7. (A £1 OPTION ON THIS CARTRIDGE)
7. LIBRARY 8. GRAPHICS PROGS FOR USE WITH LIBRARY 7)
8. LIBRARY 9. (THIS IS THE COMPLETE LIBRARY FILE FOR USE WITH ARCHIVE AND FROM WHICH THE LIBRARY GUIDE BOOKLET WAS PRODUCED) COST**£1.50**

A SMALL NUMBER OF PROGRAMS HAVE BEEN DELETED FROM CARTRIDGES 3, 5, AND 7 DUE TO THE FACT THAT WE HAVE NOT AS YET RECEIVED PERMISSION FROM THE VARIOUS MAGAZINES, IN WHICH THEY APPEARED, TO DISTRIBUTE THEM TO MEMBERS. SHOULD PERMISSION BE GIVEN LATER, I WILL INCLUDE THEM ON A FURTHER LIBRARY CARTRIDGE. FOR THOSE OF YOU WHO HAVE ALREADY BOUGHT THE LIBRARY BOOKLET, THE DELETIONS ARE:-

LIBRARY 3. ROUTINES_BAS, PCW_DOC.
LIBRARY 5. PALETTE_BAS.
LIBRARY 7. MONITOR_BAS, SIMULATE_IT_BAS, SLAYER_BAS,
 DEFINER_BAS.

WHICH BRINGS ME TO THE FOLLOWING POINT. WILL MEMBERS WHO SUBMIT PROGRAMS FOR INCLUSION IN THE LIBRARY PLEASE STATE IF THE PROGRAM IS THEIR OWN WORK AND IF NOT, WHICH BOOK/MAG THEY HAVE COPIED IT FROM AND WHICH EDITION.

WE HAVE TO OBTAIN PERMISSION TO USE OTHER PEOPLES' WORK AND IT MAKES IT A LOT EASIER TO OBTAIN THIS, IF THE ABOVE INFORMATION IS INCLUDED.

ALSO, WHEN SUBMITTING PROGRAMS FOR INCLUSION IN THE LIBRARY, PLEASE SUBMIT AS MUCH DOCUMENTATION, OR A QUILL_DOC, ON WHAT THE PROGRAM IS AND WHAT IT DOES AND HOW IT WORKS etc. REMEMBER THAT NOT ALL MEMBERS ARE PROGRAMMERS AND WE WANT TO BE AS HELPFUL AS POSSIBLE TO THEM.

ONE FINAL POINT ON SUBMISSIONS, INITIALLY ALL PROGRAMS SHOULD BE SUBMITTED TO **SID DAY, 261, HIGHFIELD ROAD, ROMFORD, R75 3RW**. AND NOT DIRECTLY TO ME. SID HAS KINDLY OFFERED HIS ASSISTANCE AND FOR THIS I AM VERY GRATEFUL.

SUB LIBRARIAN NORTH OF THE BORDER.

JAMES METHLEY, 4, ADAMSLIE CRESCENT, KIRKINTILLOCH, GLASGOW. G66 1BL. TEL:- 041 - 776 2938. HAS VOLUNTEERED HIS SERVICES AS SUB LIBRARIAN AND HE HAS NOW BEEN ADDED TO THE LIST.

TO ALL OTHER MEMBERS, AND THERE ARE MANY, WHO HAVE VOLUNTEERED TO BE SUB LIBRARIANS I THANK YOU. I HAVE MADE A NOTE OF ALL SUCH MEMBERS AND AS AND WHEN WE NEED OTHER SUB LIBRARIANS, I WILL CONTACT THE VOLUNTEERS, STRICTLY ON A ROTA BASIS. TO ALL THOSE PERSONS WHO HAVE VOLUNTEERED WILL YOU PLEASE ACCEPT THIS NOTE AS AN ACKNOWLEDGEMENT OF YOUR LETTERS (including those from distant lands).

SUB—LIBRARIANS

SHOULD MEMBERS FEEL THEY HAVE A JUSTIFIED COMPLAINT ABOUT THE SERVICE PROVIDED FROM THE LIBRARY, IE, UNDUE DELAYS, PLEASE LET ME KNOW IN THE FIRST INSTANCE. THERE MAY BE REASONABLE EXPLANATIONS, IF NOT I WILL SEE TO YOUR COMPLAINT.

FINALLY MY THANKS TO ROB SHERRATT AND HIS WIFE, CAROLE FOR THEIR WORK, AND THE MANY HOURS OF TYPING THEY PUT IN COMPLETING THE "LIBFILE".

ALLEN BARTRAM,
7, Templegate Crescent,
Leeds. LS15 0EZ.
(0532) 646464

COMPUTMATE DISC SYSTEM.

HAVING RECENTLY BOUGHT A COMPLETE DISC SYSTEM FROM THE ABOVE COMPANY, COMPRISING OF THE CST INTERFACE, 5 1/4" DISC DRIVE, (TEAC) AND A POWER SUPPLY. I CAN REPORT THAT I AM HIGHLY SATISFIED WITH THE UNITS. THE SYSTEM WAS ORDERED BY POST AND RECEIVED 3 DAYS AFTER I POSTED MY CHEQUE. TYPICAL (LOADING TIME FOR QUILL IS 4 SECONDS. WITH PRO RATA TIMES FOR THE OTHER PSION PACKAGES, WITH WHICH THE SYSTEM IS FULLY COMPATIBLE.

I HAD THE SYSTEM A FEW DAYS WHEN IT APPARENTLY DEVELOPED A FAULT. I SAY APPARENTLY BECAUSE AS YOU READ ON YOU WILL SEE IT WAS NO FAULT OF COMPUTAMATE.

ON PLUGGING IN ONE MORNING THE SCREEN FILLED WITH MULTI-COLOURED STRIPES AND THE QL WOULD NOT DO ANYTHING.

I RANG COMPUTAMATE (RICHARD OLPHIN) AND ARRANGED TO VISIT THEIR PREMISES ON GOOD FRIDAY.

AFTER BEING PLIED WITH COFFEE, I WAS TAKEN TO THE WORKSHOP AND MY UNITS WERE TESTED ON THEIR EQUIPMENT AND FOUND TO BE OK. NOW AT THIS POINT MOST OTHER PEOPLE WOULD HAVE FELT THAT THEIR OBLIGATIONS HAD FINISHED, AFTER ALL THEY HAD PROVED BEYOND DOUBT THAT THEIR EQUIPMENT WAS NOT AT FAULT. BUT NOT COMPUTAMATE, THEY SUGGESTED THE FAULT LIE WITH THE QL AND ON INSPECTING IT, FOUND THAT A COUPLE OF THE PINS INSIDE THE I/O PORT HAD BEEN BENT OVER AND THESE WERE CAUSING THE PROBLEM.

THEY PROMPTLY REPAIRED THIS, RE-TESTED EVERYTHING AND FOUND IT WORKED, THEN SENT ME ON MY WAY REJOICING. THE MORAL IS, IF YOU GET ONE OF THESE SUPERB SYSTEMS DON'T BE HEAVY HANDED WHEN ENGAGING THE INTERFACE, AND IF YOU DO GET SIMILAR PROBLEMS, CHECK THE I/O PORT PINS.

MY THANKS TO RICHARD OLPHIN AND THE STAFF AT COMPUTAMATE FOR THE EXCELLENT SERVICE.....SINCLAIR COULD DO TO TAKE LESSONS FROM THEM IN P.R.

ALLEN BARTRAM,
LIBRARIAN

SHINWA CPA-80 PRINTER DRIVER FOR USE WITH "INSTALL BAS.

	<u>Codes to install</u>	<u>What to type in</u>
DRIVER NAME	SHINWA	Use left cursor, type name.
PARITY	NONE) Alter contents
BAUD RATE	9600) with
LINES/PAGE	66) left or right
CHARACTERS/LINE	80) cursor
CONTINUOUS FORMS	YES) keys
END OF LINE CODE	<CR>,<LF>	13,10
END OF PAGE CODE	<FF>	12
PREAMBLE CODE	<ESC>,@	27, 64
POSTAMBLE CODE	NONE	
EMPHASIZE ON	<ESC>,E	27, 69
EMPHASIZE OFF	<ESC>,F	27, 70
UNDERLINE ON	<ESC>,-,1	27, 45, 49
UNDERLINE OFF	<ESC>,-,0	27, 45, 48
SUBSCRIPT ON	<ESC>,S,1	27, 83, 49
SUBSCRIPT OFF	<ESC>,T	27, 84
SUPERSCRIP ON	<ESC>,S,0	27, 83, 48
SUPERSCRIP OFF	<ESC>,T	27, 84
TRANSLATE 1	NONE) Alter the
TRANSLATE 2	NONE) dip Switches***

Alter the Dip Switches

TURN OFF THE POWER TO THE PRINTER< then

1. Lift off the Dip Switch cover above 'On Line' lights
2. Note current settings and the switch numbering.
3. Note that ON is UP and OFF is DOWN
4. Alter switches 8 to 12 for typescript thus:-

	<u>Switch Number: 8 9 10 11 12</u>	<u>DIP</u>	<u>SWITCH</u>
<u>LAYOUT</u>			
USA with #	D U D U D	9 10 11 12	
UK with £	U D U U D		
ITALIC	U U D D U	5 6 7 8	
FRENCH	U U D U D	1 2 3 4	

5. Alter Special Effects Switches Thus:-

<u>SWITCH NO:</u>	<u>ON(UP):</u>	<u>OFF(DOWN):</u>	<u>EFFECT:</u>
No. 1	Invalid	Sends NUL Signal	Download
No. 2	Emphasized	Normal Print	Print Mode
No. 3	12 inches	11 inches	Form Length
No. 4	1/8 inch	1/6 inch	Line Spacing
No. 5	142 char's	80 characters	Column Length
No. 6	Fixed	Not Fixed	1" Skip over.
No. 7	With Slash	Regular Zero	ZERO Style

/* I don't know where this came from. It looks as if it might be useful to CPA-80 users, anyhow. */

QUALITY SOFTWARE?

I must apologise in advance for what is about to be written below. It will probably be incomprehensible and contain errors, but that is how I write when I get really, really angry. The cause of my anger, as you may well guess, is Sinclair Research and the utter garbage that is supplied to an unsuspecting market. Please don't get me wrong, I love my QL and think it is just about the best micro available and, for the price paid, is in a class of it's own. However, let's make a new monthly award. I suggest that it would be called the "LEMON" award and would go to the programmer of the most stupid routine to be supplied with the QL for that month.

This month's LEMON award must surely go to the programmer of the conversion routines for the output of floating point numbers in SuperBASIC!!!. In order to get an idea of what I mean, try the following:-

```
100 CLS
110 a = 1.23456
120 FOR i = 0 to 19
130 PRINT a
140 NEXT i
```

Everything OK? Sure and a wonderful machine it is too. 10 out of 10 for British software engineering. But, hold on to your hats because here we go for a LEMON trip.

```
100 CLS
110 a = 1.23456E615
120 FOR I = 0 to 19
130 PRINT a
140 NEXT i
```

Everything OK? If, like myself, you went away for a cup of coffee while the QL was displaying the results, you will have no doubt as to who should be getting the LEMON award for this month. You will also have no doubt as to where he should be getting it. Yes, it must be a 'he' as no self respecting lady programmer would let that one slip past. May I suggest that it would be a kindness to put the programmer of that routine out of his misery. I have not bothered to locate the code which is performing this torture on a wonderful CPU but have no doubt that a loop is involved somewhere. Please inform Sinclair Research that the divide instruction has been invented and can be used instead of successive subtractions.

Ron Dwight,
T:mi Softronic,
Suvikuja 3814,
02120 Espoo 12,
Finland.

DELETING TEXT ON THE QL

I am pleased to find that the new QUILL is a real improvement on the old one. It is much speedier, does not consult overlays so frequently, and gives the impression of greater reliability. I suggested to Psion that it would be valuable to be able to delete text from the cursor to the end of the line in one swift operation, instead of painstakingly highlighting each line in turn until the end is arrived at. But this has not been added (- in fact few new features have been added). This does not matter for

small files, but for large ones it is a genuine bore!

However, I found a method of picking out items (e.g. tables) from a large file to save elsewhere. The procedure is as follows:-

1. Insert a page and just before and just after all items to be transferred.
2. Note the numbers of the pages which enclose each item - for example, 2 to 3: 5 to 6: etc.
3. Use the PRINT command, selecting "PRINT from page 2 to 3 to MDV2_Fname

In other words, the portion of the file after the point where page 2 (say) ends and page 3 starts is now saved to a file as MDV2_FNAME_LIS. Of course, it may well be better policy (if there is more than one portion) to move them all to the end of the file and place a single forced page just before them. In due course the file name should be changed to FNAME_DOC. The fact that a part of a file can be saved to cartridge using the PRINT command could also be of value under other circumstances. Incidentally, to erase a forced page break, put the cursor on the dotted line and press CTRL - Left Arrow.

Bill Cowhig.

Notes from your secretary.

Please note that you can ring up to 10. 30 pm, with lunches 12.45 to 2.15 and teas 5.15 to 6.15. Sometimes a chat may be out of the question due to current workloads. I am sorry for delays on supplying local members but I tend to do these requests in a batch.

Please keep the label on your newsletter envelope as this is to be used for library purposes and claiming discounts from suppliers.

Chas. Dillon's 100 Pages on ARCHIVE have received a rapturous reception and Rob. Sherratt has prepared 10 Pages of notes on how to use the LIBFILE cartridge which contains details on the library.

- Chas. Dillon's Notes £3.75
 - Chas. Dillon's cartridge £5.00 or if supplied 3.00
 - Library 'hard copy' 50 pages £2.75.
- Please send in stamps with requests for the above.

SUB-GROUPS and contacts.

Birmingham:	Andrew Atton	021-477-4618
London North	Ashok Soni	01-472-9966
London South	Don Forbes	01-688-5794
London West	Gordon Henson	0-373-4647
Bristol	John Tanner	0272-623401
Oxford	Now Vacant. Ideas Please.	
Southampton	Jonathan Kempston	0703-766879
Liverpool	P. Steward
Edinburgh	Ted Gladstone	031-661-4558

Archive	Chas Dillon (Prof superb!)	0827-897343
Archive	Sandra Essex	08833-4796
Quill	required.	
Abacus	required.	
Easel	required.	

General e.g. BASIC, ARCHIVE Systems: Gordon Henson (see above.)

Machine Code	Gary Williams	01-907-2360.
Head Librarian	Allen Bertram	Leeds(0532) -646464
Library 'quality control'	Sid Day	see library info Page 34

As these notes will appear here every month will area contacts "pester" me to ensure inclusion.

Brian Pain

COMPCWARE QL PRODUCT PRICE LIST - APRIL 1985

**57, Repton Drive, Harlington, CREWE CW1 1SA Telephone: Crewe
(0270) 582301**

PRICES INCLUDE VAT AND DELIVERY

Hardware

Sinclair QL (Psion 2 packages)	£389-99
Microvitec CUB high res monitor with cable	£265-00
Simlex 256K RAM expansion	£198-00
CST Q-DISC QL floppy disc interface	£149-00
3.5" or 5.25" single 360k disc system	£308-00 *
3.5" or 5.25" dual 360k disc system	£475-00 *
3.5" or 5.25" single 720k disc system	£349-00 *
3.5" or 5.25" dual 720k disc system	£529-00 *
Star Gemini 10 X 80 col dot matrix printer	£170-00 !
Star Delta 10 X 80 col dot matrix printer	£250-00 !
Smith Corona Daisywheel printer	£170-00 !
10-5.25" floppy discs in plastic box	£29-95
1-3.5" floppy disc (10 for £75)	£7-99
4-Microdrives in plastic wallet (as with QL)	£9-99
QL serial cable	£16-00
QL Centronics interface	£38-00

* All disc systems include drive(s), power supply, all cables, Q-DISC interface, and extensive typeset manual.
Just plug in and go.

! These printers are being sold off at a loss - stock limited.

Software Utilities

Computer One Assembler	£29-95
Computer One Monitor	£24-95
Computer One Pascal	£39-95
Computer One Forth	£39-95
Computer One Typing Tutor	£24-95
Metacomco Assembler	£39-95
Metacomco BCPL	£59-95
Metacomco LISP	£59-95
Compware Toolkit	£14-95

Software Games

Zkul Adventure - Talent Computer Systems	£19-00
West Adventure - Talent Computer Systems	£19-00
Psion Chess	£19-00

ALL PRICES INCLUDE VAT AND DELIVERY

DataManagement QL software - leading the way. (0904) 760351

SBUTIL - (£9.00) - Possibly the last word in BASIC programming utilities. Constant readout of: Line No & Statement / Data Line & Statement / Dynamic BASIC Size. Full SuperBASIC speed Control via the BASIC Editor. 4 formats for all Screens and tastes. No more wondering where things go wrong. This tells you exactly where you are at all times.

BACKUP - (£8.00) - An Independent, fast & reliable backup to / from Mdv or Disk. File additions, over-writes and file sizes fully displayed.

TERMINAL - (£12.50) - A full featured terminal package. Full protocol control and ability to recall preview setups. Job control, clock and alarm modules, together with Piping for mdv and printer. Full mdv and disk control without exiting : copy, delete or save to files. Monitor version only

CHALICE - (£10.00) - A comprehensive character generator. Includes extra functions for SuperBASIC to control your creations. Founts can be saved to disk or mdv for recall and use. No copyright restriction on subsequent publication.

SBEXTRAS - (£6.00) - many extra features and procedures to add to SuperBASIC. Includes full job control, dynamic file access with byte or variable GET/PUT.

PM - (£12.50) - A full feature file management package. If you need to do it to a file this will do it for you. Supports disks/mdvs, wildcard and flexible command entry.

QLDIARY- (£10.50) - A SuperBASIC Diary package incorporating Page-to-a-Day and Page-to-a- week entries as well as the normal calendar features. A useful touch is the alarm, that can be set for any date/time forward. The screen displays and ease of use are first class and although a very comprehensive manual is provided, this program is so easy to use that it is largely a waste of paper. A M/L screen, copy routine is provided for dot matrix printers.

QLLIFE - (£6,00) - A very old idea, but this M/L version for the QL's graphics is the prettiest to date. Using a clever dynamic creature size, this LIFE can run a 6 to 60 square universe with full wrap-a-round.

DATABOSS - (£10.50) - This is actually two separate SuperBASIC programs. One is a user defined DATABASE package allowing up to 10 fields of up to up to 64 characters each with the user defining the screen layout. The second, **MAILBOSS**, is a preformed variation on **DATABOSS** dedicated to the control of a mailing list and subsequent label production. Apart from the normal Name, Address, Postcode and telephone number an additional field is provided for dedicated selection criteria. This can be searched alone or with the other fields to give a powerful and effective selection procedure. Facilities are also present for global modifications of any part of the selection field. Space denies fuller explanation, but suffice to say I would use this for DM's mailing list if it wasn't already on a much larger machine.

QLFED - (£1250) - If you ever needed to modify a file without loading it and of course getting it back, not least of all modify its header record, then this IS what you need. Full ASCII or HEX modification together with string/HEX search and replace with full information on relative and absolute positions.

All 100% m/language, multi-tasking unless SuperBASIC is stated. Prices shown include VAT & P/P, but add £1.99 per order for an mdv cartridge.

Cheques or P/Os to DataManagement: 12, Larch Way, Haxby, YORK, Y03 8RU or telephone (0904) 760351 (anytime) for our latest list, which is growing daily.

Have you written any good QL software? We are looking for the best software and are prepared to pay the best royalties.

Our latest list and newsletter explains in much more detail. Write or phone now for your copy. We also have a number of 'free bees' such as screen copy and nestlist which are distributed with orders. However, send a cartridge and SAE and we will send copies with your list and newsletter.